Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously presented) A compound that comprises:

at least one sialidase or active portion thereof, wherein the sialidase is a human sialidase or a bacterial sialidase peptide or protein having sialidase activity that cleaves α(2,3)-Gal and/or α(2,6)-Gal linkages; and

at least one peptide or protein that binds to a glycosaminoglycan (GAG) on the surface of a target cell, wherein the peptide or protein that binds to a GAG comprises the GAG-binding amino acid sequence of: human platelet factor 4 (SEQ ID NO:2), human interleukin 8 (SEQ ID NO:3), human antithrombin III (SEQ ID NO:4), human apoprotein E (SEQ ID NO:5), human angio-associated migratory protein (SEQ ID NO:6), or human amphiregulin (SEQ ID NO:7).

2. (Previously presented) The compound of claim 1, wherein the target cell is an epithelial cell or endothelial cell.

3. (Previously presented) The compound of claim 2, wherein the target cell is an epithelial cell.

4-5. (Canceled)

6. (Previously presented) The compound of claim 3, wherein the peptide or protein that binds to a GAG can bind heparin or heparan sulfate.

7-31. (Canceled)

32. (Previously presented) The compound of claim 1, wherein the sialidase is at least one human sialidase.

33. (Previously presented) The compound of claim 32, wherein the human sialidase is NEU1, NEU3, NEU2, or NEU4.

34. (Previously presented) The compound of claim 33, wherein the sialidase is NEU2 or NEU4 and comprises the sequence of amino acids set forth in SEQ ID NO:8 or SEQ ID NO:9.

35-46. (Canceled)

47. (Previously presented) A pharmaceutical formulation comprising the compound of claim 1.

48-49. (Canceled)

50. (Withdrawn) A method for the prevention, prophylaxis or treatment of influenza infection, comprising: applying a therapeutically effective amount of the composition of claim 1 to target cells of a subject.

51-53. (Canceled)

54. (Withdrawn – previously presented) A method of using a human or bacterial sialidase for the prevention, prophylaxis or treatment of infection by a pathogen, comprising:

applying a therapeutically effective amount of the composition of claim 1 to target cells of a subject.

55-56. (Canceled)

57. (Withdrawn – previously presented) The method of claim 54, wherein the subject is a human subject and the sialidase is at least one human sialidase.

58. (Withdrawn – previously presented) The method of claim 57, wherein the sialidase is NEU2 or NEU4 and comprises a sequence of amino acids that is the sequence of amino acids set forth in SEQ ID NO:8 or SEQ ID NO:9.

59-60. (Canceled)

61. (Previously presented) The compound of claim 1, wherein the sialidase is at least one bacterial sialidase.

62. (Previously presented) The compound of claim 61, wherein the bacterial sialidase is selected from the group consisting of *Vibrio cholerae* sialidase, *Arthrobacter ureafaciens* sialidase, *Clostridium perfringens* sialidase, *Actinomyces viscosus* sialidase and *Micromonospora viridifaciens* sialidase.

63. (Previously presented) The compound of claim 61, comprising only one bacterial sialidase.

64. (Previously presented) The compound of claim 63, wherein the bacterial sialidase is *Actinomyces viscosus* sialidase.

65. (Previously presented) The compound of claim 1, further comprising at least one peptide linker that links the peptide or protein that binds to a GAG to the peptide or protein having sialidase activity.

66. (Previously presented) The compound of claim 65, wherein the peptide linker comprises at least one glycine residue.

67. (Previously presented) The compound of claim 65, wherein the peptide linker comprises the sequence (GGGGS)n, where n is a whole number from 1 to 20.

68. (Previously presented) The compound of claim 1, wherein the peptide or protein that binds to a GAG is N-terminal to the sialidase or active portion thereof.

69. (Previously presented) The compound of claim 1, wherein the peptide or protein that binds to a GAG is C-terminal to the sialidase or active portion thereof.

70. (Previously presented) The compound of claim 1, comprising at least two peptides or proteins that bind to a GAG.

71. (Previously presented) The compound of claim 70, wherein at least one of the peptides or proteins that bind to a GAG is N-terminal to the sialidase or active portion thereof and at least one of the peptides or proteins that bind to a GAG is C-terminal to the sialidase or active portion thereof.

72. (Previously presented) The pharmaceutical formulation of claim 47 that is formulated as a spray.

73. (Previously presented) The pharmaceutical formulation of claim 47 that is formulated as an inhalant.

74. (Previously presented) The compound of claim 3, wherein the epithelial cell is a respiratory epithelial cell, an adenoid epithelial cell or a bronchial epithelial cell.

75. (Canceled)

76. (Previously presented) The pharmaceutical formulation of claim 47 that is formulated as a suspension, a solution for injection or a solution for oral administration.

77. (Previously presented) The pharmaceutical formulation of claim 47 that is formulated as a solution for eye drops.

78. (Previously presented) The pharmaceutical formulation of claim 47 that is formulated as a cream, salve, gel, or ointment.

79. (Previously presented) The pharmaceutical formulation of claim 47 that is formulated as a tablet, capsule or lozenge.

80. (Previously presented) A delivery system, comprising the pharmaceutical formulation of claim 73 and a device selected from among a nebulizer, an atomizer and a dropper bottle.

81. (Canceled)

82. (Withdrawn) The method of claim 54, wherein the sialidase is at least one bacterial sialidase.

83. (Withdrawn) The method of claim 82, wherein the bacterial sialidase is selected from the group consisting of *Vibrio cholerae* sialidase, *Arthrobacter ureafaciens* sialidase, *Clostridium perfringens* sialidase, *Actinomyces viscosus* sialidase and *Micromonospora viridifaciens* sialidase.

84. (Withdrawn) The method of claim 83, wherein the bacterial sialidase is *Actinomyces viscosus* sialidase.

85. (Withdrawn) The method of claim 54, wherein the applying is by use of a nasal spray.

86. (Withdrawn) The method of claim 54, wherein the applying is by use of an inhaler.

87. (Withdrawn) The method of claim 54, wherein the applying is by oral administration.

88. (Withdrawn) The method of claim 54, wherein the applying is performed from once to four times a day.

89. (Withdrawn) The method of claim 54, wherein the pathogen is a bacterium.

90. (Withdrawn) The method of claim 54, wherein the pathogen is a virus.

91. (Withdrawn) The method of claim 90, wherein the virus is selected from among influenza, parainfluenza and respiratory syncytial virus.

92. (Withdrawn) The method of claim 91, wherein the virus is influenza virus.

93. (Withdrawn) The method of claim 54, wherein the subject is a human subject or an animal subject.

94. (Previously presented) The compound of claim 1, wherein the sialidase or active portion thereof is:

a human sialidase selected from among NEU1, NEU3, NEU2, or NEU4; or

a bacterial sialidase selected from among *Vibrio cholerae* sialidase, *Arthrobacter ureafaciens* sialidase, *Clostridium perfringens* sialidase, *Actinomyces viscosus* sialidase and *Micromonospora viridifaciens* sialidase.

95. (Previously presented) The compound of claim 1, further comprising a moiety selected from among proteins, peptides, carbohydrates, fatty acids, lipids, steroids, nucleotides, nucleotide analogues, nucleic acid molecules, nucleic acid analogues, peptide nucleic acid molecules, organic molecules, and polymers.

96. (Previously presented) The compound of claim 95, wherein the moiety is a purification moiety, a moiety that improves the solubility or distribution of the compound, a linker, a stability-conferring moiety, a moiety that contributes to the three dimensional structure of the compound, or a moiety that increases the size of the compound.

97. (Previously presented) The compound of claim 96, wherein the moiety is a linker that links the peptide or protein having sialidase activity and the peptide or protein that binds to a GAG .

98. (Previously presented) The compound of claim 97, wherein the linker links chemical entities to the compound.

99. (Previously presented) An isolated polypeptide comprising at least one sialidase or active portion thereof having sialidase activity that cleaves α(2,3)-Gal and/or α(2,6)-Gal linkages, wherein the sialidase is a human sialidase or a bacterial sialidase; and

at least one peptide or protein that binds to a glycosaminoglycan (GAG) on the surface of a target cell, wherein the peptide or protein that binds to a GAG comprises the GAG-binding

amino acid sequence of: human platelet factor 4 (SEQ ID NO:2), human interleukin 8 (SEQ ID NO:3), human antithrombin III (SEQ ID NO:4), human apoprotein E (SEQ ID NO:5), human angio-associated migratory protein (SEQ ID NO:6), or human amphiregulin (SEQ ID NO:7).

100. (Previously presented) The polypeptide of claim 99 further comprising a linker that links the peptide or protein having sialidase activity to the peptide or protein that binds to a GAG.

101. (Previously presented) The polypeptide of claim 99 wherein the peptide or protein that binds to a GAG binds heparin or heparan sulfate.

102-107. (Canceled)

108. (Previously presented) The polypeptide of claim 99, wherein the sialidase is at least one human sialidase.

109. (Previously presented) The polypeptide of claim 108, wherein the human sialidase is selected from among NEU1, NEU3, NEU2, or NEU4.

110. (Previously presented) The polypeptide of claim 99, wherein the sialidase comprises a bacterial sialidase selected from among *Vibrio cholerae* sialidase, *Arthrobacter ureafaciens* sialidase, *Clostridium perfringens* sialidase, *Actinomyces viscosus* sialidase and *Micromonospora viridifaciens* sialidase.